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ABSTRACT

Developed as part of a 104-hour course on adult residential care homes (ARCHs), this 50-minute lesson is designed to enable a student to: (1) define a bedsore; (2) list and describe three major causes of bedsores; (3) identify potential bedsore sites in the back-lying, side-lying, and sitting positions; and (4) calculate the risk for developing bedsores given a risk chart and a specific problem. The lesson plan begins with information on the course for which the lesson was designed; equipment and audiovisual aids needed; requirements for student materials; course objectives; bibliographic references; and special remarks for the instructor. Next, a step-by-step outline of the instructor's presentation is provided in a format indicating the length of time and the equipment or other aids necessary for each step of the lesson. Transparency masters are included. (PAA)

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ED283550

HAZARDS OF IMMOBILITY

BEDSORES

Adult Residential Care Home,
Lesson Plan No. 5

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LESSON PLAN

LESSON PLAN NO. 5		INSTITUTION / AGENCY: Western Curriculum Coordination Center		PAGE <u>1</u> OF <u>18</u> PAGES	
COURSE OF INSTRUCTION AND COURSE NUMBER: Adult Resident Care Home (ARCH) 011			TOTAL HOURS: 104	LESSON TITLE: Hazards of Immobility: Bedsores.	
DAY AND DATE OF INSTRUCTION: Thursday, November 20, 1986			HOURS 5:00-5:50pm	PLACE: University of Hawaii - Manoa, Wist Hall, Room 112	
NO. OF STUDENTS: 19	REHEARSAL: November 18 & 19, 1986	INSTRUCTOR AND ASSISTANTS: Lin, Kathleen		STUDENT MATERIALS AND DRESS: Materials: Textbook Notebook Pen Dress: Informal	

REFERENCES:

1. American Red Cross, Family Health and Home Nursing. New York, Doubleday and Co. Inc., 1979. pp. 380-382.
2. Shannon, M. "Five Famous Fallacies about Pressure Sores" Nursing 84. 10:34-41. Oct. 1984.
3. Wolf, L., Weitzel, M., Zornow, R., and Zsohar, H. Fundamentals of Nursing. Philadelphia, J. B. Lippincott Co. 1983 pp. 408-412.
4. Zucker, E. Being a Homemaker/Home Health Aide. Brady Communications Co. Inc. 1982 pp.251-253.
5. Seminar: Dunning, S. "Taking the Pressure Off Pressure Sores" Kinetic Concepts Inc. January 15, 1986.

OBJECTIVES:

At the end of the 50 minute lecture, the student will be able:

- 1) To define a bedsore.
- 2) To list and describe three major causes of bedsores.
- 3) To identify potential bedsore sites in the back-lying, side-lying and sitting positions.
- 4) Given the risk chart and a specific problem, to calculate the risk for developing bedsores.

EQUIPMENT AND AUDIO-VISUAL AIDS:

- | | |
|------------------------|--|
| Overhead Projector | Transparencies: |
| Slide Projector | 5-A: To Prevent Bedsores You Need To Know. |
| Skeleton | 5-B: What is a Bedsore? |
| Large table | 5-C: Determining Patients at Risk. |
| Chalk | 5-D: Example #1. |
| Chalk Eraser | 5-E: Example #2. |
| Pointer | Slides: |
| Colored, water-soluble | #1 A Threatening Superficial Bedsore. |
| Felt-tipped pen | #2 An Open Superficial Bedsore. |
| Handout: Determining | #3 A Deep Bedsore. |
| Patients at Risk for | #4 Combination of Superficial and |
| Bedsores. | Deep Bedsores. |

SPECIAL REMARKS:

Students are boarding home operators, taking this course for upgrade in licensure. English is the second language of 18 of the 19 students. The age range is 36-60 years old.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
1. <u>INTRODUCTION.</u> a. 75,000 out of the 1,000,000 hospitalized Americans per year develop bedsores.² This is 13% or 1 out of every 133 persons hospitalized. b. This figure does not account for persons admitted to long term care facilities or persons being cared for in homes such as yours or by their families. If it would the figure would be much higher. c. Bedsores take 2 months to 1 year or more to heal, involving much time in treating the bedsore and money in necessary medications, dressings and possibly hospitalization. d. Most all bedsores can be prevented. e. You may be caring for high risk residents now; if not now, when licensure is received you will be eligible to care for high risk persons. Therefore, in order to provide the best possible care and to keep your caring time to a minimum, you need to know: (1) What a bedsore is. (2) The causes of bedsores. (3) What a beginning bedsore looks like. (4) Where a bedsore is most likely to develop. (5) How to identify your high risk residents. (6) How to effectively prevent bedsores. NOTE: Today I will cover (1) - (5) only.	5 min.	Lecture. Use transparency S-A "You Need to Know" while enumerating (1) - (6).

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
Give time for questions. NOTE: Up to this point in class we have been using the term bed sore. Know that the terms bedsore/pressure sore/decubitus ulcer are synonomous. They mean the same. <u>EXPERIMENT</u>: Before I go any further, I want to explain an experiment with pressure I want you to do during class today. I want you to find a comfortable sitting position and maintain it until I give permission to move. There may be no shifting from side to side, no shifting of the legs. Until I give permission to move I want you to move only your head and arms. Are there any questions?		Place these terms, bedsore=pressure sore=decubitus ulcer, on the black-board for continual visualization during class.
2. <u>PRESENTATION</u>. BEDSORES. a. QUESTION: What is a bedsore? b. QUESTION; Has anyone seen a bedsore? Could you describe what you have seen? ANSWER: A bedsore is an open sore that develops over a bony prominence due to prolonged pressure, friction and/or shearing.	3 min.	Use transparency 5-B Bedsores. Questions.
c. Three major causes of bedsores. (1) Pressure is the major cause. 25mm mercury of pressure will cut off subcutaneous capillary circulation.⁵ This amount of pressure prevents circulation to the specific area, thus depriving the area of food and does not remove accumulating wastes. If this condition is maintained for 20 minutes, tissue death will begin.⁵ 7	5 min.	Continue with transparency 5-B. Demonstrate cut-off of capillary circulation by pressing finger to desktop until fingernail and surrounding area becomes white. Have students return demonstrate, using only enough pressure to cause color change. Explain that circulation to area of pressure is now being hindered. 8

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
Allow time for questions. QUESTION: What happens when more than 25mm mercury of pressure is applied to an area of the body? ANSWER: No food or oxygen is taken to the area and no wastes are carried away. (2) Friction. The body sliding over material produces friction. A person sitting in bed slides down to the foot of the bed. He is repositioned but slides down again. Each time he slides down or is repositioned, there is friction. The same thing happens when a person is sitting in a wheelchair for a period of time. If this kind of friction continues over a period of time, the skin can become injured. (3) Shearing. When the body slides over material, the friction produced causes skin movement over the inner layers of tissue. This movement and pressure causes inner tissue damage. d. Two major types of bedsores. (1) Superficial. (a) Involves skin only. (b) Friction is the major cause. (c) Warning signal - redness which does not disappear within 2 hours after pressure is relieved.	5 min.	Demonstrate friction by rubbing wrist over skirt. Have students experience friction by rubbing inner wrist over pants. Demonstrate shearing by placing elbow on the desk and moving the elbow without lifting it from the desk. Show slide #1. Emphasize large area involved and the red irritated appearance of the area. Show slide #2. Note the large reddened area and the superficial area in the center of the reddened area.

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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
(2) Deep. (a) Involves the skin, subcutaneous tissue and often-times the muscle. (b) Pressure is the major cause, shearing is a contributing cause. (c) Warning signal - redness which does not disappear within 2 hours after pressure is relieved. QUESTION: What are the three causes of bedsores. ANSWER: Pressure, friction and shearing. QUESTION: What are the two types of bedsores? ANSWER: Superficial and deep bedsores. QUESTION: What is the warning signal for each type of bedsore? ANSWER: Redness that does not disapate within two hours after the pressure is relieved. QUESTION: What is the cause of each type of bedsore? ANSWER: Friction causes superficial sores. Pressure and shearing cause deep sores.	3 min.	Continue using transparency 5-B. Show slide #3. Note the depth of the open area and the minimal amount of redness surrounding the open area. Show slide #4. Note the combination of the superficial and deep bedsores. Note the small, deep, open area and the very large surrounding area of redness.
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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
e. Where are bedsores most likely to develop? Bedsores develop over bones that project close to the surface of the body and receive a large portion of the body weight when the person is sitting or lying. (1) Identify pressure points of the back-lying position. (a) Back of head. (b) Shoulder blades. (c) Elbows. (d) Tailbone. (e) Heels. (2) Identify pressure points of the side-lying position. (a) Ear. (b) Shoulder. (c) Ribs. (d) Side of hips. (e) Knees (both). (f) Ankles (both). (g) Side of the foot. (3) Identify pressure points of the sitting position. (a) Shoulder blades. (b) Hips.	8 min.	Position a skeleton in the back-lying position. Have the students identify those bones that come in contact with the table surface. Position a skeleton in the side-lying position. Have the students identify those bones that come in contact with the table surface. Position a skeleton in the sitting position. Have the students identify those bones that receive pressure.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
(c) Backs of the knees. (d) Heels. (e) Outside of the feet. REVIEW: Remove skeleton and have students review pressure sites for the back-lying, side-lying and sitting positions. f. Who is at risk for developing bedsores? Are we all at risk? Absolutely, given certain conditions. Since you haven't moved for 30 minutes you may feel like you are developing one! Are there people who are more likely to develop bedsores than others? Yes. There are some persons with various conditions or disabilities who are more prone to develop bedsores than you and I. Therefore we need to evaluate those factors which contribute to the development of bedsores. Then we can predict who will most probably develop bedsores and take preventative action. Those factors which influence bed sore development include: (1) The mental status. (2) The ability to control urine and stool (continence). (3) The mobility of the person. (4) The activity level of the person. (5) The nutritional level. (6) The circulatory status. (7) The body temperature. 15	10 min.	Lecture Distribute Risk Chart handout to all students. Use transparency 5-C "Determining Patients at Risk for Bedsores". 16

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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
(8) Medication intake. Each of these factors need assessment . They have varying levels of severity with the ranking of 1 to 4. 1 indicates the category of least function while 4 indicates normal function. (1) The mental status. The person is assessed for his level of alertness. Is he alert, uninterested in his surroundings, confused or unresponsive? Note the numerical value progressing from 4 to 1. (2) Continence. Here the person is assessed for his ability to control his urine and stool, progressing to the ability to control one but not the other to total incontinence without the use of an indwelling catheter. (3) The mobility or the ability to move. The person is rated from being completely mobile, to slightly limited, to very limited, to being completely immobile or unable to move. QUESTION: Who is immobile? ANSWER: Answers may vary, but should include someone who is unconscious. QUESTION: Give me an example of a person with very limited mobility. ANSWER: Answers might include those paralyzed from the waist or shoulders or those confined to bed due to fractures. (4) Activity level. This area assesses the amount of activity a person is capable of performing. The level		Lecture Continue using transparency 5-C. Questions. Lecture. Continue using transparency 5-C

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OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
ranges from the individual who is a completely capable, independant walker, to someone who walks with assistance, to someone confined to a wheelchair, to someone who is bedridden.		Lecture. Continue using transparency 5-C.
(5) Nutritional level. One judges the nutritional level by judging the body weight in relation to the body build and height. The body weight of a person with good nutrition is in correct proportion to his height and weight. Being moderately over-weight or under-weight is classified as being in fair nutrition. One who is grossly over-weight or under-weight has poor nutrition. The person with a starved appearance is classified in the lowest category as cachetic.		
(6) Circulatory status. I mentioned capillary circulation when I talked about pressure. Here we want to look at capillary circulation by looking at what happens when the pressure is relieved.		
Put pressure on your fingernail until you see a whitish coloring under the nail. Relieve the pressure and note a color change the original pink. You have just checked your capillary refill.		Demonstrate while explaining. Give students time to return the demonstration.
QUESTION: Are there any questions?		
ANSWER: As necessary.		
Immediate return of color on release of pressure is normal and thus is rated a 4, while slower capillary refill rates a 3. Mild swelling of the tissues, particularly of the feet and legs but also of the back if the person is lying down, receives a rating of 2. Moderate to severe swelling of the tissues is rated a 1.		Continue using transparency 5-C during the explanation of rating.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
The amount of swelling can be checked by pressing a finger into the tissues on the top of the foot or just above the tailbone on the back. If a slight depression remains on release of the pressure, the person is said to have minimal swelling. If the depression is moderately deep to very deep we can say he has moderate to severe swelling. (7) Body temperature. The body temperature also affects tissue health. As you see a body temperature of 98°F to 99°F has little affect, so it is rated 4. For each degree of increase thereafter the level of affectation increases. A body temperature of 99°F to 100°F is rated 3, while a body temperature of 100°F to 101°F is rated 2. A body temperature of 101°F or above affects the body most adversely and thus receives only 1 point. (8) Medication intake. Three types of medications can cause conditions which can contribute to easier tissue breakdown. These are medications to relieve pain, tranquilizers and steroids. To rate a 4 the person cannot be taking any of these medications. If he takes 1 kind he receives 3 points, if taking 2 kinds he receives 2 points and if he is taking all three kinds, he receives only 1 point. SUMMARY: We have covered the 8 factors which can contribute to the development of bedsores. We have looked at conditions within each factor that can contribute in varying degrees of severity to the development of bedsores, assigning a number to each of those conditions. QUESTION: Do you have any questions regarding what we have just covered? ANSWER: Answer appropriately.		Demonstrate how to check for edema. Continue using transparency 5-C during the explanation. Turn overhead projector "off". Summarize. Ask for questions.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
g. Using the risk chart. To use the risk chart to determine the approximate amount of risk a person has for developing bedsores, evaluate each factor, considering which condition within the factor best describes him. Assign the appropriate number and record it. For example, when you are considering the mental status of one of your residents, you know he sits all day without showing interest in what is going on around him, you would assign him a number 3. Proceed in this way. After assigning a number for each factor, total the numbers. Anyone with a number of 24 or lower is at risk for developing bedsores. Preventive care is absolutely necessary. EXAMPLE #1: Example #1 is an 86 year old Japanese lady with Alzheimer's Disease. She is very confused and incontinent of urine and stool. She can move her arms and legs slowly purposelessly. She does not move or turn herself in bed. She has been unable to walk for about one week. Within the last week she refused to continue to feed herself and the caregiver does not know what to give her or how to feed her. She looks very thin and has no fatty tissue under her skin. She has good capillary return but has a 99.8°F temperature. She takes none of the mentioned medications. Using the risk chart, calculate her risk. Let us calculate her risk together. Her mental status is confused. You rate her 2. She is incontinent of urine and stool. You rate her 1. She has very limited movement, so you rate her 2. She is bedridden. You rate her 1. QUESTION: What is her nutritional status? ANSWER: We said she is very thin, so she has poor nutrition. Rate her nutritional status 2. She has immediate capillary return, so you rate her 4. However, her temperature is 99.6°F, so you rate her 3. Because she takes no medication, you rate her 4. 23	8 min.	Lecture. Show transparency 5-D "Example #1", reading it with the students. Using transparency 5-C, calculate the risk factor with the students. 24

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
QUESTION: What is her risk factor? ANSWER: Her risk factor is 19. EXAMPLE #2: Example #2 is a 72 year old Caucasian male who had a stroke $1\frac{1}{2}$ years ago, which left him unresponsive except to groan occasionally, unable to move and unable to swallow. He is fed through a tube put into his stomach. Even so, he is only skin and bones, his ribs are well outlined. He has no edema, but has delayed capillary refill. He takes no medications, but has a constant temperature of 100.6°F. Calculate this man's risk factor. QUESTION: What is this man's risk factor? ANSWER: His risk factor is 14. QUESTION: Do you have any questions? ANSWER: Answer appropriately. <u>END OF EXPERIMENT:</u> Now you may move. You have not moved for approximately 40 minutes. Discuss at what period the students felt the need to move. Discuss where the pressure was felt most acutely. Compare the students to persons with various conditions of the risk chart. Emphasize that the students are healthy in all ways except that they were immobile. Emphasize that now the student can better understand the necessity for preventive care for high risk persons if they, healthy people, became so uncomfortable. 3. <u>SUMMARY.</u> Today you have learned what a bedsore is. You have gained some insight into the causes of bedsores, learning that tissue death begins with only 25mm mercury of pressure lasting for only 20 minutes.	5 min.	Show this example on transparency 5-E "Example #2" so students can read the example and do their own calculations. Turn overhead projector "off". Discussion.

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
You have seen pictures of superficial and deep bedsores. And, you learned and experienced where bedsores are most likely to develop. You have also learned how to identify persons at greater risk for developing bedsores. I believe you will be eager to hear tomorrow's lecture on how to prevent bedsores. 27		28

TO PREVENT BEDSORES YOU NEED TO KNOW:

1. WHAT A BEDSORE IS.
2. WHAT ARE THE CAUSES OF BEDSORES.
3. WHAT A BEGINNING BEDSORE LOOKS LIKE.
4. WHERE A BEDSORE IS MOST LIKELY TO DEVELOP.
5. HOW TO IDENTIFY YOUR HIGH RISK RESIDENTS.
6. HOW TO EFFECTIVELY PREVENT BEDSORES.

Transparency 5-A
Kathleen Lin
11/20/86

A. WHAT IS A BEDSORE?

A BEDSORE IS AN OPEN SORE THAT DEVELOPS OVER A BONY PROMINENCE DUE TO PROLONGED PRESSURE, FRICTION AND/OR SHEARING.

B. THREE MAJOR CAUSES OF BEDSORES.

1. PRESSURE.
2. FRICTION.
3. SHEARING.

C. TWO TYPES OF BEDSORES.

1. SUPERFICIAL.
2. DEEP.

Transparency 5-B
Kathleen Lin
11/20/86

DETERMINING PATIENTS AT RISK FOR BEDSORES

	MENTAL STATUS	CONTINENCE	MOBILITY	ACTIVITY	NUTRITION	CIRCULATION	TEMPERATURE	MEDICATIONS
4	alert	control of urine/stool	fully mobile	independant walker	good	immediate capillary refill	98°-99°F	no steroids, tranquilizers or pain medications.
3	apathetic	incontinent of urine (without catheter)	slightly limited	walks with assistance	fair	delayed capillary refill	99°-100°F	one of the above
2	confused	incontinent of stool	very limited	confined to wheelchair	poor	mild edema	100°-101°F	two of the above
1	unresponsive	incontinent of urine and stool	immobile	bedridden	cachectic	moderate to severe edema	> 101°F	all of the above

Evaluate residents for each of the above categories, then assign appropriate score. Residents with a score of 24 on this assessment scale are at significant risk for developing pressure sores.

Transparency 5-C
Kathleen Lin
11/20/86

Adapted from NURSING 84, 10/84

EXAMPLE #1

THIS PERSON IS AN 86 YEAR OLD JAPANESE LADY WITH ALZHEIMER'S DISEASE. SHE IS VERY CONFUSED AND INCONTINENT OF URINE AND STOOL. SHE CAN MOVE HER ARMS AND LEGS SLOWLY, PURPOSELESSLY. SHE DOES NOT MOVE OR TURN HERSELF IN BED. SHE HAS BEEN UNABLE TO WALK FOR ABOUT ONE WEEK. WITHIN THE LAST WEEK SHE REFUSED TO CONTINUE TO FEED HERSELF AND THE CAREGIVER DOES NOT KNOW WHAT TO GIVE HER. SHE LOOKS VERY THIN AND HAS NO FATTY TISSUE UNDER HER SKIN. SHE HAS GOOD CAPILLARY RETURN, BUT HAS A 99.8°F TEMPERATURE. SHE TAKES NONE OF THE MENTIONED MEDICATIONS.

Transparency 5-D
Kathleen Lin
11/20/86

EXAMPLE #2

THIS PERSON IS A 72 YEAR OLD CAUCASIAN MALE WHO HAD A STROKE
1½ YEARS AGO, LEAVING HIM UNRESPONSIVE EXCEPT TO GROAN OCCASIONALLY,
UNABLE TO MOVE AND UNABLE TO SWALLOW. HE IS FED THROUGH A TUBE PUT
INTO HIS STOMACH. EVEN SO, HE IS ONLY SKIN AND BONES, HIS RIBS ARE
WELL OUTLINED. HE HAS NO EDEMA, BUT HAS DELAYED CAPILLARY REFILL.
HE TAKES NO MEDICATIONS, BUT HAS A CONSTANT TEMPERATURE OF 100.6°F.

Transparency 5-E
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